Baikiaea plurijuga

Harms

Fabaceae - Caesalpinioideae

Zimbabwean teak

LOCAL NAMES

Afrikaans (Rhodesiese kiaat); English (Zambezi redwood,Zambezi teak,Rhodesian teak,Rhodesian chestnut,African teak); Lozi (mukusi); Tongan (mukushi); Trade name (Zimbabwean teak); Tswana (mokusi)

BOTANIC DESCRIPTION

Baikiaea plurijuga is a deciduous, semi-deciduous, or almost evergreen tree growing to 27 m tall, with a straight bole up to 120 cm in diameter; occasionally swollen at the base; the erect to spreading branches form a heavy, usually rounded crown; bark smooth and pale in young trees, later becoming vertically fissured and cracked, brown to grey, especially on slow-growing trees. B. plurijuga has a deep rooting growth habit.

Leaves alternate, compound with 3-6 pairs of opposite, thin, leathery leaflets; leaflets dark green and glossy above, paler and slightly hairy on the underside, oblong to elliptic, 3.5-10 x 2-2.5 cm; apex broadly tapering to rounded, often notched, bristle tipped; base square to lobed; margin entire, inclined to be wavy, finely rolled under; petiole short; obscure swelling on the margin near the base of each leaflet.

Flowers attractive, large, in strong axillary racemes up to 30 cm long; buds dark brown or golden brown and densely velvety; 4 sepals; sepals and stalks with dark brown velvet hairs; 5 petals, pinkish-mauve, crinkly, 2-3 x 1-5 cm; 10 stamens; ovary stalked; only 2-3 flowers open at once, each lasting a day.

Fruit a flattened, woody pod up to 13 x 5 cm; broadcast near the apex and tapering to the base; with dark brown, velvety hairs that are frequently rubbed off to reveal golden-yellow patches; mature pods open explosively to release up to 3 dark chestnut-brown seeds.

The genus is named after William Balfour Baikie, a naturalist in West Africa who died in 1864. and ‘plurijuga’ means ‘many paired’.

BIOLOGY

Pods are dehiscent, splitting explosively, immediately spiralling and throwing the seeds some distance. Flowering and fruiting are erratic. In South Africa, flowering occurs from December to March and fruiting from June to September.

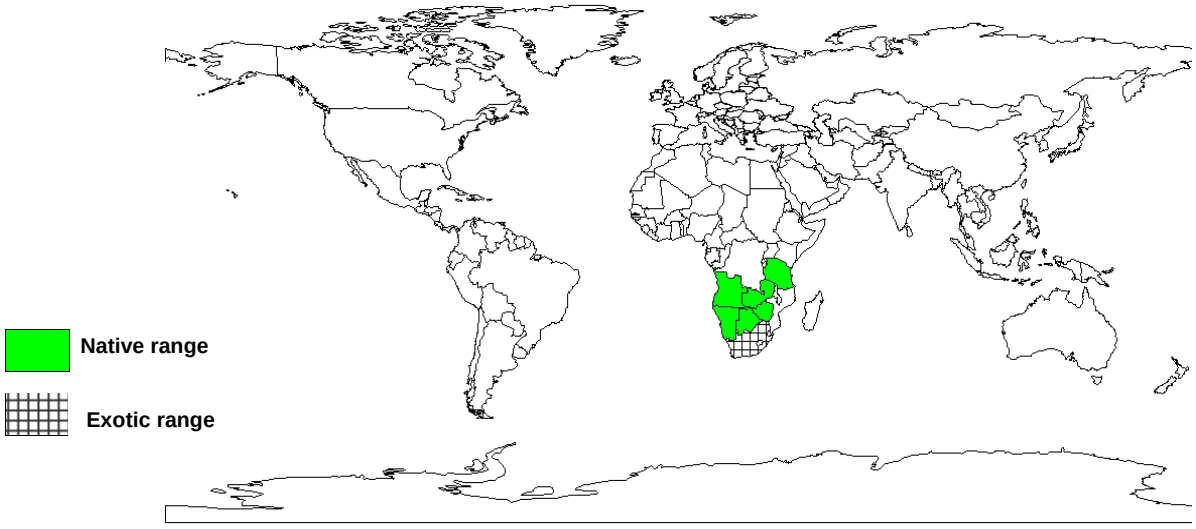
ECOLOGY
In its natural range, from Tanzania to Zimbabwe, B. plurijuga is a dominant species in the dry, open, deciduous forest. The species suffers adversely from dry-season fires and subsequent competition from thorny, fast-growing colonizer bushes, mainly of Acacia species. B. plurijuga is frost sensitive but can withstand some drought.

BIOPHYSICAL LIMITS
Mean annual temperature: 31-38 deg. C, Mean annual rainfall: 600-1000 mm

Soil type: It prefers the deep Kalahari sandy soils with a pH range of 5.0-5.5, which is the dominant soil type in its natural range.

DOCUMENTED SPECIES DISTRIBUTION

Native: Angola, Botswana, Namibia, Tanzania, Zambia, Zimbabwe
Exotic: South Africa



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

PRODUCTS
Fuel: B. plurijuga makes good fuel, producing very hot coals.

Timber: The sapwood is pinkish, the heartwood straw-brown with irregular black lines or flecks, becoming dark red or reddish-brown on exposure to light and air. The heartwood may form about 80% of the mature log. The wood is hard, heavy, strong, stable and durable with a fine, even texture. Although hard to saw because it blunts cutting edges, it saws and planes cleanly and turns and polishes well. It splits on nailing if not pre-bored but glues satisfactorily. It is widely used for railway sleepers, mining timber, batten doors and furniture, but is most valuable as a flooring timber owing to its stability, durability and handsome appearance. Wood is naturally resistant to decay caused by fungi and shows a marked resistance to termite attack.

Tannin or dyestuff: Both heartwood and bark contain tannins, the bark up to 26%. The wood contains an amino-acid, baikiain. The bark is used for tanning leather, giving it a reddish colour.

Medicine: Decoctions of the bark are used to treat syphilis and to make a fortifying tonic, but few other medicinal uses are on record.

SERVICES
Ornamental: B. plurijuga is a tree for the larger garden and ideal for a park. The grey stems, dark green leaves, pinkish flowers and dark brown pods make it a very decorative tree.

TREE MANAGEMENT
Common management activities include fire protection, supervision of commercial sawmills, and establishment of B. plurijuga plantations. To reduce the incidence of fire, B. plurijuga plantations should be divided into small and manageable beats with clear and wide boundaries between and around them.

Although a moderately slow-growing species (500-700 mm/year), its growth rate can be substantially improved by providing suitable growing conditions. It takes about 30 years for the species to reach 8 cm dbh under natural conditions, yet this size can be attained in less than 15 years under suitable plantation conditions, thereby shortening the rotation by at least 15 years. Intensive care after sowing and planting induces fast growth. Weeding is needed for up to 8 years to get satisfactory results. Its rooting system is non-aggressive.

PESTS AND DISEASES
Despite the general resistance of the timber, several species of powder-post beetles (Lyctidae and Bostrichidae), flat-head borers and long-horn beetles attack the timber in various ways. Most notable are the powder-post beetles that attack the wood and especially the sapwood, all seasons of the year. The structural damage the beetles cause is serious and results in rejection of infested timber for commercial use. In Zambia, attack by various rodents and duikers (antelopes, Sylvicapra grimmia) causes severe problems with natural regeneration.

Apart from the serious problem associated to some extent with a wilt disease caused by Fusarium oxysporum, there are few records of fungal pathogens damaging B. plurijuga forest trees.

FURTHER READNG

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